AMENDMENTS TO THE CLAIMS:

Claims 1-71 (cancelled)

72. (New) A method for mounting an electronic component, comprising:

forming a ball at a tip of a metal wire;

forming said ball into a bump by thermocompression bonding said ball to a first electrode of an electronic component;

while an insulating resin layer is interposed between said electronic component and a circuit board, mounting said electronic component onto said circuit board while said first electrode is aligned with a second electrode of said circuit board, wherein said insulating resin layer includes a mixture of an insulating resin, an inorganic filler and conductive particles; and then

bonding said electronic component to said circuit board by hardening said insulating resin layer such that said first electrode becomes electrically connected to said second electrode via said bump.

73. (New) The method according to claim 72, wherein

forming a ball at a tip of a metal wire comprises subjecting said metal wire to an electric spark.

74. (New) The method according to claim 73, wherein

thermocompression bonding said ball to a first electrode includes applying supersonic waves to said ball.

75. (New) The method according to claim 74, further comprising:

using a capillary to hold said metal wire while subjecting said metal wire to said electric spark, and while forming said ball into said bump.

76. (New) The method according to claim 75, wherein

mounting said electronic component onto said circuit board while an insulating resin layer is interposed between said electronic component and said circuit board comprises mounting said

electronic component onto said circuit board without leveling said bump while a solid or semi-solid insulating resin layer is interposed between said electronic component and said circuit board.

77. (New) The method according to claim 76, wherein

bonding said electronic component to said circuit board comprises using a tool to apply a pressure force, of at least 20 gf per bump, to said electronic component such that said bump is compressed.

78. (New) The method according to claim 77, wherein

bonding said electronic component to said circuit board further comprises applying heat to said insulating resin layer while using said tool to apply said pressure force to said electronic component.

79. (New) The method according to claim 78, wherein

applying heat to said insulating resin layer while using said tool to apply said pressure force to said electronic component results in any warpage of said circuit board being corrected.

80. (New) The method according to claim 79, wherein

applying heat to said insulating resin layer comprises applying heat to an electronic component side of said insulating resin layer, applying heat to a circuit board side of said insulating resin layer, or applying heat to an electronic component side and a circuit board side of said insulating resin layer.

81. (New) The method according to claim 80, further comprising:

before mounting said electronic component onto said circuit board, applying a load of not greater than 20 gf to said bump such that a tip of said bump is shaped but not collapsed.

82. (New) The method according to claim 81, wherein

said insulating resin comprises an insulative thermosetting epoxy resin, and an amount of said inorganic filler is from 5 to 90 weight percent of said insulative thermosetting epoxy resin.

83. (New) The method according to claim 81, wherein

said electronic component includes an additional first electrode, with an area being defined by edges of said first electrode and said additional first electrode,

said insulating resin layer comprises a solid insulating resin sheet having a surface area that is less than said area defined by said edges of said first electrode and said additional first electrode, and

said insulating resin layer is interposed between said electronic component and said circuit board by placing said solid insulating resin sheet onto said circuit board before aligning said first electrode with said second electrode of said circuit board.

84. (New) The method according to claim 83, wherein

said area defined by edges of said first electrode and said additional first electrode is an area defined by inner edges of said first electrode and said additional first electrode, and

placing said solid insulating resin sheet onto said circuit board comprises placing said solid insulating resin sheet onto said circuit board such that said solid insulating resin sheet is positioned within said area defined by said inner edges of said first electrode and said additional first electrode.

85. (New) The method according to claim 81, wherein

said wire comprises a gold wire, and

said capillary has an opening defined by a non-flat tip portion having a chamfer angle of at most 100°,

such that using a capillary to hold said metal wire while subjecting said metal wire to said electric spark and while forming said ball into said bump comprises using said capillary to hold said gold wire while subjecting said gold wire to said electric spark so as to form a gold ball at said opening and while forming said gold ball into a gold bump that has an approximately conically shaped tip by bringing said non-flat tip portion into contact with said gold ball.

86. (New) The method according to claim 81, wherein

said inorganic filler comprises a first type of inorganic filler and a second type of inorganic filler, with said first type of inorganic filler having a mean particle diameter that is different than a mean particle diameter of said second type of inorganic filler.

87. (New) The method according to claim 86, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a portion of said insulating resin layer contacts either said electronic component or said circuit board, with said portion having a smaller amount of said inorganic filler than does a remainder portion of said insulating resin layer.

88. (New) The method according to claim 86, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a first portion of said insulating resin layer contacts said electronic component and a second portion of said insulating resin layer contacts said circuit board, with said first portion having a different amount of said inorganic filler than does said second portion.

89. (New) The method according to claim 88, wherein

said first portion includes an insulating resin that improves adhesion to a film material used on a surface of said electronic component, and

said second portion includes an insulating resin that improves adhesion to a material used on a surface of said circuit board.

90. (New) The method according to claim 86, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a portion of said insulating resin layer contacts either said electronic component or said circuit board, with said portion having none of said inorganic filler therein.

91. (New) The method according to claim 81, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a portion of said insulating resin layer contacts either said electronic component or said circuit board, with said portion having a smaller amount of said inorganic filler than does a remainder portion of said insulating resin layer.

92. (New) The method according to claim 81, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a first portion of said insulating resin layer contacts said electronic component and a second portion of said insulating resin layer contacts said circuit board, with said first portion having a different amount of said inorganic filler than does said second portion.

93. (New) The method according to claim 91, wherein

said first portion includes an insulating resin that improves adhesion to a film material used on a surface of said electronic component, and

said second portion includes an insulating resin that improves adhesion to a material used on a surface of said circuit board.

94. (New) The method according to claim 81, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a first portion of said insulating resin layer contacts said electronic component and a second portion of said insulating resin layer contacts said circuit board, with said first portion including an insulating resin that improves adhesion to a film material used on a surface of said electronic component, and said second portion including an insulating resin that improves adhesion to a material used on a surface of said circuit board.

95. (New) The method according to claim 81, wherein

while said insulating resin layer is interposed between said electronic component and said circuit board, a portion of said insulating resin layer contacts either said electronic component or said circuit board, with said portion having none of said inorganic filler therein.

96. (New) The method according to claim 81, wherein

said inorganic filler comprises spherical or pulverized silica or alumina.

97. (New) The method according to claim 81, wherein

said conductive particles are each surrounded by an insulation layer.

98. (New) The method according to claim 72, wherein

bonding said electronic component to said circuit board by hardening said insulating resin layer such that said first electrode becomes electrically connected to said second electrode comprises

(i) applying a first pressure to said electronic component while applying heat to said insulating resin, and then

(ii) while no longer applying said first pressure, applying a second pressure to said electronic component, with said second pressure being less than said first pressure.

99. (New) The method according to claim 98, wherein

said first pressure is not less than 20 gf per bump, and said second pressure is not greater than one half said first pressure.

100. (New) The method according to claim 72, wherein

bonding said electronic component to said circuit board includes applying supersonic waves to said bump.

101. (New) The method according to claim 72, wherein

said insulating resin layer is interposed between said electronic component and said board by applying said mixture of said insulating resin, inorganic filler and conductive particles, while in a liquid form, onto said circuit board before aligning said first electrode with said second electrode of said circuit board.

102. (New) The method according to claim 72, wherein

said insulating resin layer is interposed between said electronic component and said board by

(i) applying said mixture of said insulating resin, inorganic filler and conductive particles, while in a liquid form, onto said circuit board, and then

(ii) heating the liquid mixture in a furnace so as to partially solidify said mixture,

before aligning said first electrode with said second electrode of said circuit board.

103. (New) The method according to claim 72, wherein

a mean particle diameter of said inorganic filler is at least 3 μm.

104. (New) The method according to claim 72, wherein

said inorganic filler comprises a first type of inorganic filler and a second type of inorganic filler, with said first type of inorganic filler having a mean particle diameter that is at least twice as large as a mean particle diameter of said second type of inorganic filler.

105. (New) The method according to claim 72, wherein

said insulating resin layer comprises a first resin layer in contact with either said electronic component or said circuit board, and a second resin layer in contact with said first resin layer,

with said first resin layer including an insulating resin that is identical to said insulating resin of said mixture, and said second resin layer having an amount of said inorganic filler that is less than an amount of said inorganic filler in said first resin layer.

106. (New) The method according to claim 72, wherein

said conductive particles are each surrounded by an insulation layer.

107. (New) The method according to claim 72, wherein

said inorganic filler comprises a first type of inorganic filler and a second type of inorganic filler, with said first type of inorganic filler having a mean particle diameter that is different than a mean particle diameter of said second type of inorganic filler.

108. New) The method according to claim 72, wherein

said conductive particles have a mean particle diameter that is greater than a mean particle diameter of said inorganic filler.

109. (New) An apparatus for mounting an electronic component, comprising:

a device for forming a ball at a tip of a metal wire;

a device for forming the ball into a bump by thermocompression bonding the ball to a first electrode of an electronic component;

a device for, while an insulating resin layer is interposed between the electronic component and a circuit board, mounting the electronic component onto the circuit board while the first electrode is aligned with a second electrode of the circuit board, wherein the insulating resin layer includes a mixture of an insulating resin, an inorganic filler and conductive particles; and

a device for bonding the electronic component to the circuit board by hardening the insulating resin layer such that the first electrode becomes electrically connected to the second electrode via the bump.

110. (New) The apparatus according to claim 109, wherein

said device for forming a ball at a tip of a metal wire is for forming the ball by subjecting the metal wire to an electric spark.

111. (New) The apparatus according to claim 110, further comprising:

a capillary to hold the metal wire while subjecting the metal wire to the electric spark, and while forming the ball into the bump.

112. (New) The apparatus according to claim 111, wherein

said device for bonding the electronic component to the circuit board comprises a tool for applying a pressure force, of at least 20 gf per bump, to the electronic component.

113. (New) The apparatus according to claim 112, further comprising:

a device for applying heat to the insulating resin layer while using said tool to apply the pressure force to the electronic component.

114. (New) The apparatus according to claim 113, wherein

said device for applying heat to the insulating resin layer, and said tool for applying the pressure force to the electronic component, results in any warpage of the circuit board being corrected when used to bond the electronic component to the circuit board.

115. (New) The apparatus according to claim 114, wherein

said device for forming the ball into a bump is for forming the ball into the bump by also applying supersonic waves to the ball.

116. (New) The apparatus according to claim 115, wherein

said device for mounting said electronic component onto the circuit board while an insulating resin layer is interposed between the electronic component and the circuit board is for mounting the electronic component onto the circuit board without leveling the bump while a solid or semi-solid insulating resin layer is interposed between the electronic component and the circuit board.

117. (New) The apparatus according to claim 116, further comprising:

a device for placing the solid or semi-solid insulating resin layer onto the circuit board or the electronic component such that the solid or semi-solid insulating resin layer becomes interposed between the electronic component and the circuit board.

118. (New) The apparatus according to claim 117, wherein

said capillary has an opening defined by a non-flat tip portion having a chamfer angle of at most 100°,

such that when said capillary is used to hold the metal wire while subjecting the metal wire to the electric spark and while forming the ball into the bump, said capillary holds the metal wire while subjecting the metal wire to the electric spark so as to form a metal ball at said opening and while forming the metal ball into a metal bump that has an approximately conically shaped tip by bringing said non-flat tip portion into contact with the metal ball.

119. (New) The apparatus according to claim 113, wherein

said device for applying heat to the insulating resin layer while using said tool to apply the pressure force to the electronic component comprises a heating device in said tool.

120. (New) The apparatus according to claim 119, further comprising:

a support for supporting the circuit board while said tool is applying the pressure force to the electronic component; and

a heating device, in said support, for applying heat to the insulating resin layer.

121. (New) The apparatus according to claim 113, further comprising:

a support for supporting the circuit board while said tool is applying the pressure force to the electronic component,

wherein said device for applying heat to the insulating resin layer while using said tool to apply the pressure force to the electronic component comprises a heating device in said support.

122. (New) The apparatus according to claim 109, wherein

said device for bonding the electronic component to the circuit board by hardening the insulating resin layer such that the first electrode becomes electrically connected to the second electrode comprises a device that is constructed and arranged to

(i) apply a first pressure to said electronic component while applying heat to said insulating resin, and then

(ii) while no longer applying said first pressure, apply a second pressure to said electronic component, with said second pressure being less than said first pressure.

123. (New) The apparatus according to claim 109, wherein

said device for bonding said electronic component to said circuit board includes a device for applying supersonic waves to said bump.

124. (New) The apparatus according to claim 109, further comprising:

a furnace to heat a mixture of the insulating resin, inorganic filler and conductive particles, while in a liquid form and on the circuit board, so as to partially solidify the mixture before the first electrode is aligned with the second electrode of the circuit board.

125. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 72.

126. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 81.

127. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 98.

128. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 100.

129. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 101.

130. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 102.

131. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 103.

132. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 104.

133. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 105.

134. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 106.

135. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 107.

136. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 82.

137. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 83.

138. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 85.

139. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 86.

140. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 91.

141. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 92.

142. (New) An electronic component unit comprising:

an electronic component mounted onto a circuit board, wherein said electronic component is mounted onto said circuit board by performing the method of claim 94.